

What is claimed is:

1. A process for the production of vitamin D<sub>3</sub> or previtamin D<sub>3</sub> from mixtures with other components, e.g., dehydrocholesterol, lumisterol and tachysterol, which process comprises separating the vitamin D<sub>3</sub> or previtamin D<sub>3</sub> by column chromatography.
- 5 2. A process according to claim 1, wherein carbon dioxide, which is selected from the group consisting of supercritical carbon dioxide and liquid carbon dioxide, and a modifier are used as the mobile phase.
3. A process according to claim 1, wherein a silica gel is used as the stationary phase.
- 10 4. A process according to claim 1, wherein the silica gel is in the form of homogeneously packed, spherical particles having a particle size of about 5 to 25  $\mu\text{m}$ .
5. A process according to claim 1, wherein a reaction mixture synthetically produced by irradiation is used as a mixture of vitamin D<sub>3</sub> isomers.
- 15 6. A process according to claim 1, which is carried out in the temperature range from about 30°C to about 60°C and in the pressure range from about 7.0 to about 15.0 MPa.